Amphibian and Reptile Habitat – Uplands Too?
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Terrestrial habitats adjacent to wetlands are not just important buffer areas to protect the aquatic resource. They serve as critical habitat for a broad range of taxa, including mammals, birds, reptiles and amphibians (Semlitsch and Jensen 2001). For many semi-aquatic species, such as amphibians and reptiles, the wetlands provide habitat for breeding, feeding, and growth. However, many species of amphibians and reptiles rely on the surrounding uplands for important life cycle activities such as nesting, hibernation, feeding, and maturation. Reports indicate that salamanders travel 100-300 meters, wood frogs from 400-800 meters, newts up to 709 meters and toads up to 914 meters to complete the non-aquatic portions of their life cycle (Colburn 2001 and Dodd 1996).

One study by Burke and Gibbons (1995) of three species of freshwater turtles revealed the turtles nested and hibernated in the upland within a 275-meter radius of the associated wetland. Another study by Semlitsch (1998) summarized existing data for several pond-breeding salamanders. After breeding in the wetland, salamanders emigrated to the adjacent upland habitats and spent 86-99 percent of each year in rodent and shrew burrows and other subterranean refuges. The study also reported that salamanders were found up to 625 meters from the edge of the wetland. Semlitsch and Jensen (1998, 2001) identified core habitat for 90-95% of the turtle and salamander populations as much as 164 meters from the wetland. The core habitat included wetland and upland components (Figure 1).

The quality of the upland portion of this core habitat does matter. DuPuis et. al (1995) found three times more salamanders in old-growth forest habitat as compared to managed second growth forest from 54 to 72 years of age. In even younger stands of second year growth (17-18 years of age), salamander numbers were only 16% of the population in the old-growth forest. Conservation efforts for wetland breeding amphibians that concentrate solely on the wetland will likely fail without consideration of the adjacent terrestrial habitat (Dodd et.al 1998). Amphibians and reptiles need moist microhabitats, stratified canopy, understory and large woody debris in their core habitat to maintain their populations. In addition, connectivity to other aquatic resources and surrounding wooded habitat beyond the core habitat further sustains those populations. However, it's important to note that if you are considering species other than amphibians and reptiles, such as mammals, the distances for core habitat would be much greater.

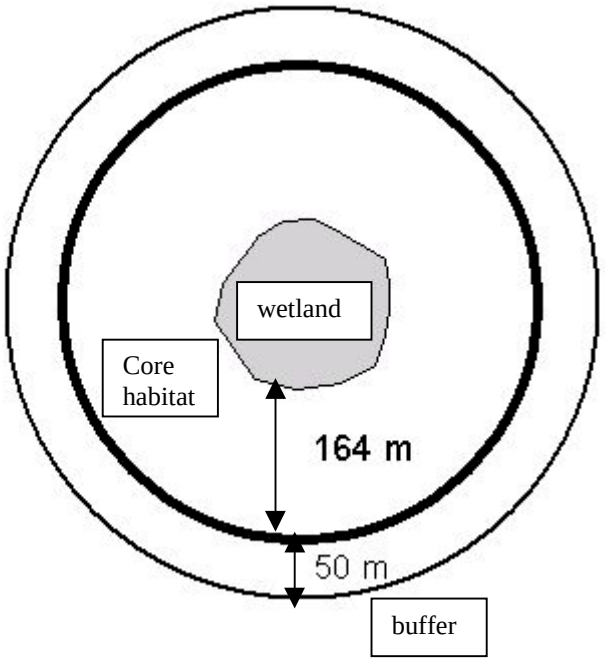

Figure 1. Core habitat and terrestrial buffer (adopted from Semlitsch and Jensen, 2001)

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